REMARKS

Claims 5-8, 10-14, 16, 18, 19, 27, and 29-36 are pending. Claims 5, 13, 19, and 27 have been amended and claims 6-8, 10, 12, 27, 29, and 30 have been indicated to be allowable. The amendment to claim 27 corrects "tuning" to "turning" and uses consistent terminology, e.g., N pulse with modulators where $N \neq 0$. In addition, the specification has been amended to correct a typographical error.

Applicants submit that the claim amendments presented herein are made to clarify in greater detail features relied on to distinguish the invention in the prior paper filed by Applicants, which features were addressed by the Examiner on pages 14 and 15 of the Final Office Action. Since these features were previously argued and considered by the Examiner, it is submitted that no new issues have been presented. Entry of this paper is therefore respectfully requested.

In the Final Office Action, claims 5, 31-33, and 36 were rejected under 35 USC § 103(a) for being obvious in view of an O'Brien-Rosback combination. Applicants request the Examiner to withdraw this rejection for the following reasons.

The Rosback patent discloses a circuit for controlling the gain of an audio signal in each of three frequency bands - low, mid, and high. The gain in each band is controlled by circuits 22, 24, and 26 respectively. At column 3, lines 7-21, the Rosback patent discloses that gain controllers 22, 24, 26 do not operate completely independently of one another. Rather, control

of the gain in the high and low bands is limited by control of the gain in the mid band. This results from a cross-coupling of lines in the circuit of Figure 1.

Thus, while Rosback teaches that the gain of the signals in the three bands is largely independent, it acknowledges that the gains are not completely independently controlled as a result of the mid-band limitation. Claim 5 has been amended to distinguish these features.

As amended, claim 5 recites that the gain control unit controls the "gains of at least the portion of the audio signals so that control of the gain of each of the portion of audio signals is not limited by control of the gain of the other audio signals." By adding these features to claim 5, the manner in which the claimed invention completely independently controls the gains of at least the portion of audio signals in different channels is clarified. That is, as amended, claim 5 now requires complete independence in terms of control of the gain of the portion of audio signals in each of the recited channels, e.g., control of the gain in any one channel is not limited by control of the gain in any other channel.

Support for these features may be found throughout the specification and drawings. For example, Figure 8 shows that the gain of the audio signal in each channel is based on the sum of a channel volume signal (which, for example, may be controlled by the user separately from the other channels) and an AGC signal. The channel volume signal ensures complete independence of the gain control in each channel. The effect of this control is shown in Figure 9. (See also, for example, Paragraphs [60]-[62] for a further explanation).

The Rosback patent does not teach or suggest the features added by amendment to claim 5. As disclosed at column 3, lines 7-21, control of the gain in the low and high bands is limited by the gain control of the mid-band. Thus, control of the gain in the bands of Rosback is limited by at least one of the bands. In contrast, control of the gains of at least a portion of the audio signals in the channels of claim 5 is not so limited, thereby achieving complete independent gain control on a channel-by-channel basis.

In rejecting claim 5, the Examiner also mentioned column 6, lines 51-53, of the Rosback patent. Here, Rosback discloses: "Compression control is therefore effectively decoupled from gain control, permitting the two to be adjusted independently from one another." The phrase "the two" in this statement refers to compression control and gain control. Thus, column 6 of Rosback discloses that compression control and gain control are independent of one another; this column **does not** disclose that control of the gains in each of the three bands is independent of one another.

Nor can such an interpretation be made - the column 6 disclosure clarifies how the circuit of Figure 1 of the Rosback patent operates. As explained at column 3, lines 7-21, the Figure 1 circuit and thus the Figure 3 circuit operate with the gain control limitation in the mid-band range. Thus, any compression control must also operate within this limitation.

The type of compression control performed by Rosback is disclosed at column 5, lines 1-14. This compression control refers to a DC level that is applied to adders 34, 36, and 38 by adjusting potentiometer 122. As shown in Figure 3, the compression control signal output from

this potentiometer is input into each of the adders. Thus, the same DC control level is applied to the adders to equally compress the signals in each of the three frequency bands - low, mid, and high.

In view of these disclosures, column 6 therefore makes clear that this compression control (i.e., generation of the compression control signal from potentiometer 122) is performed independently from the gain control performed for each of the three bands. This control does not remove the limitation disclosed at column 3 for the Figure 1 circuit, where the gain in the high and low bands are limited by the gain of the mid band. Applicants therefore submit that amended claim 5 is allowable even in view of the disclosure at column 6, lines 51-53.

The O'Brien patent does not teach or suggest these features.

Based on these differences, it is respectfully submitted that claim 5 and its dependent claims are allowable over an O'Brien-Rosback combination.

Claims 13 and 14 were rejected under 35 USC § 103(a) for being obvious in view of a Kondo-O'Brien-Rosback combination. This rejection is traversed on grounds that claim 13 has been amended to recite features similar to those added to claim 1, i.e., "the gain controllers controlling gains of at least a portion of the received audio signals so that control of the gain of any one of the recited audio signals is not limited by control of the gain of any of the other received audio signals. The Kondo patent does not teach or suggest these feature and neither do the other references of record. Furtherance of claim 13 and its dependent claims to allowance is therefore respectfully requested.

Claims 16 and 18 were rejected under 35 USC § 103(a) for being obvious in view of a Kondo-O'Brien-Rosback-Beard combination. Applicants traverse this rejection on grounds that the Beard patent does not teach or suggest the features added by amendment to base claim 13.

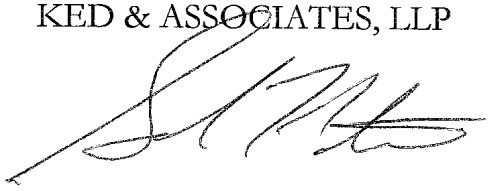
Claim 19 was rejected under 35 USC § 103(a) for being obvious in view of an O'Brien-Rosback-Beard combination. Claim 19 has been amended to recite that "the gain controllers controlling gains of at least a portion of the received audio signals so that control of the gain of any one of the received audio signals is not limited by control of the gain of any of the other received audio signals." These features are not taught or suggested by the cited references, whether taken alone or in combination. Furtherance of claim 19 and its dependent claims to allowance is therefore respectfully requested.

Claims 11, 34, and 35 were rejected under 35 USC § 103(a) for being obvious in view of an O'Brien-Rosback-Yoshida combination. This rejection is traversed on grounds that Yoshida does not teach or suggest the features added by amendment to base claim 5.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application are respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP



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